DOCUMENT RESUME

ED 069 998 CG 007 622

AUTHOR MacPherson, Evelyn M.
TITLE Operant Control of Classroom Behavior.
PUB DATE Apr 72
NOTE 20p.; Speech delivered at the National Convention of the National Association of Elementary School Principals, April 10, 1972, Miami Beach, Florida

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Behavior Change; Behavior Patterns; Behavior Problems; Classroom Research; *Conditioning; *Elementary School Students; *Elementary School Teachers; Learning Processes; *Operant Conditioning; Verbal Operant Conditioning

ABSTRACT

A brief introduction to various aspects of operant conditioning is presented, followed by a discussion of ethical concerns. Also discussed in this paper are topics such as (1) what is it? (2) motivation, (3) students need motivating, and (4) a new method. The latter part of the paper is concerned with a year long behavior project in an elementary school setting. Thirty three students whose behavior most frequently disrupted learning in the classroom were selected to serve as target children. During the first two workshop sessions, baseline data was collected on the children. The third session was devoted to response acquisition, and the fourth session dealt with extinction. It was concluded that operant methods coupled with mediation training produced behavioral changes for the better. A number of specific changes are described, among them being that immediately after initiation of the training methods, the frequency of office referrals dropped sharply. (Author/BW)

ED 069998

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

# OPERANT CONTROL OF CLASSROOM BEHAVIOR

Text of talk delivered at the Ideas-Into-Action Session, Monday, April 10th, 1972 National Convention of the National Association of Elementary School Principals, Miami Beach, Florida, by

Evelyn M. MacPherson
Principal
Mound Elementary School
Cleveland, Ohio

I'm one of those operant conditioning addicts you've been hearing about lately. With this admitted bias, you won't be surprised to hear that I deal exclusively (well, as exclusively as I can) in observables, in behaviors I can see, I can observe. This is why I welcomed the opportunity to co-direct with Dr. Ralph O. Blackwood, University of Akron, the experimental study, The Control of Anti-Social Behavior in Inner-city Classrooms through the Use of Verbally Mediated Self-Control. During an entire school year, this workshop project directed the teachers of Clara Tagg Brewer Elementary School, Cleveland, Ohio, to read, study, analyze, apply, evaluate, and sometimes apply anew operant conditioning principles to improve the social and academic responses to their students.

CG 007 622

Still, you no doubt wonder what I can tell you about administering a school, and especially about operantly controlling behaviors in the classroom. I don't blame you! Many times I've been in the audience like you and pondered the credentials of a speaker. But I can tell you one thing from first-hand experience: there are answers to improving classroom management and learner achievement--techniques that do work, techniques that are simple to grasp and better yet, easy to apply. There are answers to these educational problems. And many of these answers can be found in the erupting mountain of operant literature available to us today in the professional journals, popular magazines, and current books.

Operant research has been steadily increasing since the early sixties. Fortunately for us in the schools, we're beginning to get practical help in solving the problems confronting us daily. The more recent operant publications are making the translations from the laboratories to the actual classroom settings for us so it's becoming easier to apply the principles directly from the literature. Surely, this is important for as we who are on the firing line know, solutions must be found today; the children, the voting public, and our very jobs depend upon immediate, workable solutions.

I'd like to relate some of my on-the-job experiences in learning about and applying operant principles to administration and specifically as these methods relate to teacher instructional behavior and student learning responses. It is my hope that these ideas might exert

stimulus control over your study behavior, encouraging you to seek more information about operant control. I'm not going to recount anything really new but I am putting ideas together in what may be a new way of viewing our problems.

Operant control permits us to organize concepts of behavior in a scientific, orderly, humane, sensible manner. It enables us to develop solutions to many of the problems facing administrators, especially those of finding workable ways to improve behavior; the social and academic behaviors of both teachers and their pupils. When behaviors are upgraded, performance improves. All of us in education today accept the responsibility for accountability but sometimes it's a bit threatening and demoralizing when we seek ways and don't find answers. After reading B. F. Skinner's Beyond Freedom and Dignity and Walden II, I can't say I'm a died-in-the-wool Skinnerarian. But my experiences in using some of the basic operant principles have demonstrated that when properly applied to the classroom, they bring results--positive results--many times quickly, dramatically, and with very lasting, beneficial results. Operant methods are powerful tools. Operant techniques have worked for me and since I started my study about five years ago, I've observed them working for teachers, paraprofessionals, parents, counselors, psychologists, supervisors, administrators, and even enlightened psychiatrists and professors!

ETHICS

As with any educational principle, and especially one that's

contained within a larger body of knowledge--in this case, modification behavior--the question of ethics is a serious consideration. Anyone working with people must find his own answer to this question. But, after you weigh the ethical and moral questions and find your goals stand the test, then I submit to you, if you are working with people, that there should be no holds barred. You do everything you can to move someone as humanely as you can. Of course, once again I repeat, this depends upon your ethical considerations, your motives, your reason for wanting to change someone's behavior and what it is you want done. This forms the basis for the philosophical debates about operant control. Still, with all the arguments you want of present, we're talking practically. Like it or not, you use operant control, at least some of the methods, whether you like it or not. You even use it on yourself. If I do this, I'll get that. If I cut the grass now, then I'll get to rest for a while without feeling guilty. If I do this, I'll get that. If this is so, then this is so.

Of course there is something else at work here--positive reinforcement and rewards. We all work for rewards, although they may not commonly carry that label. We work for salaries, for raises. We work for someone to praise us; we work for someone to like us, for someone to see that we're good, we're capable. Students, teachers, parents, administrators, supervisors, all of us work for approval. We work in this society to win. Such best sellers as Schools Without Failure and I'm OK, You're OK develop this idea for educators and parents.

WHAT IS IT?

Let's take a look at what operant conditioning is, of what it consists. Earlier, when I made my true confession to you about being one of those operant addicts, I mentioned this science demanded thinking in observable terms. In looking more closely at the meaning of operant conditioning, we can, for our purpose, define conditioning as learning. An operant is the response which operatesdirectly upon the environment, on the seeable world about us. "We are most often interested . . . in the behavior which has some effect upon the surrounding world."[1] We cannot immediately do much about feelings, attitudes, things of which we cannot directly see the consequences. Operant conditioning is concerned with the effects of the behavior on learning, with behaviors--operants--which occur in or operate upon the environment. Reynolds points out, ". . . operants are emitted by the organism. The dog walks, runs . . .; the bird flies; . . . the human infant babbles vocally, In each case, the behavior occurs without any specific eliciting stimulus. The initial cause of operant behavior is within the organism itself. The organism simply uses its inherited muscular and skeletal structure in relation to the environment in which it finds itself. It is in the biological nature of organisms to emit operant behavior."[2]

---

[1]B. F. Skinner, Science and Human Behavior (New York: The Free Press, 1953), p. 59.

[2]G. S. Reynolds, A Primer of Operant Conditioning (Glenview, Illinois: Scott, Foresman and Co., 1968), p. 8.

MOTIVATION

Now, I'm not trying to sell you on a program of operant conditioning. I'm not suggesting you should run a school exclusively on these methods. What I am suggesting is, these ideas are some you can consider and use in working with teachers, students, and parents to improve the teaching and learning in your school. One of the dilemmas staring us in the face today is that of motivation. How do you motivate the teacher and the child to do a better job?

Recently, about 200 Ohio educators gathered for two days of lectures and discussions trying to find ways they could motivate students. Not until the last two hours of the workshop did they really come to some workable ideas for motivating. Not until they defined motivation as not only having intrinsic, internal values, but as being extrinct, external as well, did solutions emerge.

Traditionally, motivation is described in terms of rewards and punishments. "The student is rewarded . . . in the success of gaining knowledge and problem solving . . . [and] is punished . . . by disappointment. . . ."[3]

Applying operant principles to motivation, the behavioral engineer can make an operant analysis of what Mace has internalized as "success" and "disappointment." Thus, by operantly analyzing the situation, a workable solution is available. Empirical research

---

[3]C. A. Mace, The Psychology of Study (Baltimore: Penguin Books, 1968), p. 110.

(Hopkins, et al., 1971; Madson, et al., 1968; Twardosz, et al., 1972; and Wasik, et al., 1969) gives us many practical illustrations. Motivation can be outside one's self and as such can be influenced. We can do something about it. Dr. Blackwood has startled many listeners with his arrogant sounding statement, "Wipe out discipline problems and you don't have any problems of motivation." In effect, motivational problems are many times termed discipline problems. By reducing the discipline problems in your school, you'll increase motivation in the classroom. Operant conditioning gives us the nice, neat tools needed to use in wiping out misbehaviors. By using operant methods, you develop workable ways to motivate.

STUDENTS NEED MOTIVATING

While I was working at Brewer School, the teachers became very discouraged by the lack of interest the children showed towards their studies. Homework was a struggle to get returned--in any form! The library was not used very much on strictly voluntary basis. Lessons lacked student enthusiasm. Too frequently student behavior needed correcting. And the complaint, "He's not working up to grade level" was heard too often.

Brewer is not a blackboard-jungle type school. The majority of our students come from small, well-painted homes surrounded by neat green lawns. Some children live in less attractive, deteriorating sections of the community. Most parents were cooperative and willing to help. But they were at a loss to know what to do. The teacher

used many, varied techniques to instruct the students. They frequently up-dated their teaching materials and methods. New ideas were constantly discussed in the teachers' lounge; some studied and tried out. We did our share of parent conferences, lecturing, class discussions, and punishing. All these techniques have their uses and are effective under specific conditions, but they don't in and of themselves solve the problems. I remember saying, "If that teacher sends down one more child for me to discipline, I'm going to . . ." and the secretary telling me, "Telephone. It's Mrs. Ralston, John's mother. She wants to speak to you about a fight. Some kids are picking on her son." Well, I suppose this sounds like made-up fiction, or does it? When we look at the kinds of articles appearing in the journals, the newspapers, popular magazines, on TV programs today, it seems everyone, the butcher, the baker, the candlestick maker--everyone can identify the problems facing educators today. But we in the schools surely don't need more help in identification. What we need are solutions.

## A NEW METHOD

Towards the end of April, all of us on the staff became curious about what was going on in one sixth grade homeroom. Ervin was assigned many of the problem students, probably because he was THE man teacher. None of the children's former teachers really felt they were successful in strengthening the desirable behaviors and weakening the misbehaviors of these students. The teachers had had it with the troublemakers and the students in turn had had it with their teachers. How these

kids acted up when Ervin first got them in September! How sixth graders can go wild! Well, I was worried. Then I began to notice that after the first several weeks of school, they really hadn't been into trouble. No longer were they sent to the office. They were really working and learning instead of cutting up. When I checked their report cards, their grades were showing improvement. When the print-outs came back on their achievement test scores, improvement showed there, too. Come to think of it, one morning when I was going down the hall, I spotted Myron. I braced myself for his usual bad behavior. In fact, I made a mental bet with myself that he'd either go past me without a comment--without bothering to answer even if I greeted him, or he'd give some smart aleck remark. Well, was I surprised! A genuine friendly grin spread over his face and a cheery "Hello, Miss MacPherson" greeted me! I was stunned. I hardly could answer him, I was so astonished at this pleasant response. Later, in recounting this to the school secretary, she mentioned being overwhelmed by his conduct, also. Frequently, he offered to run errands and help her clean up the storeroom. At first, she wondered if he was trying the case the set-up for a future nocturnal visit, but when he continued to be such a help (which was out of character--at least out of past character--for him), she realized that he was doing it because she reinforced him with her praise!

The faculty began to buzz about the changes in Ervin's class. "What's going on with his kids?" "Myron, William, Greg--they sure have been minding their P's and Q's." "I haven't caught them fighting or

sassing back for quite a while, come to think of it." "Now that I've got the safety patrol this year, the guards were always reporting those brats of Ervin's. But now that's all stopped!" "What's he been doing to his class?"

Finally, Ervin confided his secret of success. His graduate school professor was telling him about ways to control misbehaviors. He was applying operant conditioning, a term we didn't understand. Ervin suggested we invite his teacher to our May faculty meeting. Well, after reflecting on what miracles Ervin was creating with his class, I quickly changed the meeting's topic.

BEHAVIOR PROJECT

By the time we were saying good-bye at the close of the talk, we were laying our plans for a pilot teacher-training program on controlling anti-social behaviors in the classroom. It was with this purpose in mind that the faculty began meeting on Saturdays to learn about operant methods, discuss applications, and draw up plans for treatment. On the Mondays after our sessions, we put our plans into practice. We began by selecting a few target children in each class for study. While first we were learning the methods, our motto was, "Think small. . . . Produce big!" Toward the end of the year, most teachers were using operant methods to conduct their entire classes. By then the teachers were more skilled in the methods and confident of the outcomes. Their trust in the techniques was well-founded for

their successes were outstanding!

TARGET PUPILS

We first selected those students whose behaviors most frequently disrupted learning in the classroom. Altogether, the teachers selected 33 pupils to serve as target children. Of the target children selected, ten made excessively distracting noises in class, nine regularly failed to complete assigned work, seven repeatedly talked at inappropriate times, two frequently annoyed neighbors, two were constantly out of their seats disturbing others, one caused a commotion by manipulating subjects on his desk, one was a chronic tattler, and one kept turning around in his seat.

During the first two workshop sessions, each teacher collected baseline data on the frequency of the target behaviors. We were instructed to withhold our application of operant techniques until after the two week baseline data was collected. In this way, changes after introduction of operant techniques could be compared with the average response rate during the baseline period. But I think some of us started using operant control as soon as we began the readings, as we were so anxious to reduce misbehaviors. The school secretary plotted the data on individual graphs so that teacher and child and parent could see what progress, if any, was made.

OPERANT METHODS

I'll very briefly mention the topics discussed and the methods we instituted during this year long study. I might add here that some of us are still studying and refining our methods--I guess you could say we've become hooked! Maybe this is why we're called operant addicts. The first two topics have already been mentioned; the selecting and defining of the target behaviors and recording and graphing of the data collected.

The third session was devoted to the Law of Effect, response acquisition. This is the reinforcement principle I mentioned earlier when we talked about Grandma's law--if you eat your carrots, you can go out to play ball. The important thing to remember here is to watch what happens immediately after the target response occurs--what it is you do. This is the stimulus, the reinforcer, that is maintaining the behavior. Change the reinforcer, the stimulus, and you can influence change in the behavior. There is much to the theory of reinforcement learning--remember Myron? Much more than can be discussed here.

The fourth session dealt with extinction, a very powerful tool that can produce powerful results. With this technique, you can break habits. If used improperly, it can backfire. Extinction must be clearly understood and correctly applied to produce the desired results. Usually, it is wise to combine extinction with conditioning a competing response. With these methods you switch the payoff and build acceptable habits.

We learned to enrich our classrooms and improve our teaching methods as we studied shaping techniques. Shaping helps you put into practice the oft-repeated phrase, start them where they are and move them along. By employing the techniques of shaping, you can precisely teach the increasingly complex steps of the particular skill you wish mastered.

To strengthen and maintain appropriate behaviors and weaken maladaptive responses, we discussed positive and aversive reinforcers and their influence upon the frequencies of behavior. By using an operant approach, we could examine punishment--negative reinforcement--in an unemotional, scientific manner. It surprised us to learn the use of negative reinforcement is a part of reinforcement therapy.

As we became more sophisticated in the use of the basic principles, we studied the element of timing, especially as it related to reinforcement of a response we wished either to strengthen or weaken. From this principle of conditioned reinforcement, contingency management, token economies, and precision teaching are derived. One of the staff members set up a self-government type of token economy which worked very effectively with a class who was previously unstable. The teacher used inexpensive stimuli normally available in the regular classroom. No special purchases were made to entice the students and no long range prizes such as portable radios or TV's were offered by either the parent or the teacher. By making an operant analysis of the situation, we became much more aware of what turned our kids on. Monetary value wasn't

the important factor.

We learned how to make cues and signals work efficiently when we talked of discrimination and generalization of stimulus control. The results gained from this principle made us feel like professional teachers in practice as well as in job description.

Usually, behaviors involve many individual responses. This complexity makes it important to understand how chains of responses work. Chaining taught us how to set up and advance routines and helped us in individual instruction.

An important goal of behavior control is the teaching of self-control. Most school philosophies and curriculum aims cite self-control as a highly desirable tr lt to develop in their students. Yet, few teachers are successful in teaching this virtue. Many educational theories try to deal with self-control but are unproductive because they deal in unobservables. By putting definite limits on our relaxation of the empiricist's approach to operant conditioning, we studied verbal mediation to train children in self-control. The mediation training stage of the study was introduced after the teachers successfully rearranged their classroom practices so that misbehaviors no longer paid off. Instead, desired behaviors were reinforced and strengthened. Thinking, covert verbal behavior, mediates between the tempting stimulus situation and the overt responses when a child shows self-control. We taught children to briefly inhibit their action when tempted to misbehave and to describe to themselves the consequences of their actions.

The verbal description can then replace the external tempting cues as stimuli, controlling the child's behavior. Lack of self-control is often impulsive behavior in which no covert verbal responses or thinking occurs between the cues for misbehaving and the acting out of responses. The mediation training procedure gave the misbehaving child practice in verbalizing the consequences of his behavior--thinking before acting.

From the second grade up, the child was initially made familiar with the consequences of his behavior simply by copying an essay. The essay is organized into four questions and answers describing the consequences of the misbehavior and the desired behavior. The essays were developed for each target child by the teachers just prior to the initiation of this stage of treatment.

In practice, when a child misbehaved, the teacher first silently signaled him to desist. If the misbehavior continued, the teacher dropped an essay on the child's desk with instructions for the child to copy it. Procedures were developed for administering the essay without inadvertently reinforcing the child with attention and also for dealing with children who were reluctant to comply with the assignment.

Another operant control we used was modeling. Role playing and group discussions such as the Schools Without Failure approach are useful when this principle is understood. It is obvious that I have mentioned only some of the high points of operant techniques in this summary of topics applied in our study. I hope this brief description will stimulate your interest in learning more about them.

We found lectures to be a relatively ineffective method of training teachers in operant methods. Instead, the teachers were encouraged to read the written materials, attend short lecture-discussion reviews, and then plan intervention programs. Since each teacher chose not more than three target children and kept a running frequency count of the target behaviors, it was easy to make these work sessions deeply meaningful by relating them to each teacher's target child.

## RESULTS

Operant methods coupled with mediation training produced behavioral changes for the better. But what changes? Where's the proof? Well, during the year prior to the initiation of the project, the principal's office was often busy with children referred for disciplining and from time to time the office was inundated with referrals. It wasn't necessary to keep frequency counts to know how much time was literally wasted settling disputes and administering punishments.

When the study began in September, the recording of all office referrals was initiated so that the effects of the training program could better be evaluated. Unfortunately, it was not possible to postpone treatment until the children reached their normal mid-year higher level of frequent misbehaviors. The baseline data for the study was obtained from the first two weeks of school when, as any principal will recognize, misbehavior seldom reaches the heights which will be seen two or three months later. Yet, there were frequent office referrals for discipline even during the first two weeks, an average of 8.5

referrals per week. During the eight weeks of simple operant conditioning, there was some decrease in office referrals. However, the office still received an average of 3.5 referrals per week. This reduction occurred in spite of the fact that the children were becoming adapted to the new classes and new teachers and could have been expected, under ordinary conditions, to have misbehaved more freely as the weeks passed.

Immediately after initiation of the mediation training methods, the frequency of office referrals dropped sharply and as soon as the teachers became proficient in training the children to think of the consequences of their behaviors, office referrals dropped to zero. So, during the last 26 weeks of school there were only four office referrals; during the last 21 weeks there was only 1 referral; and during the last 15 weeks there were no referrals.

The individual room graphs are contained in the project's report filed with the U.S. Office of Health, Education, and Welfare.[4] Examination of these graphs show that in each case there were decreases in disruptive behaviors in spite of the fact that the baseline data was collected during the very first weeks of school before the children had fully adapted to their new classes. In most cases, the mediation training proved to be highly effective, often completely eliminating the target misbehavior. Keeping in mind the teachers chose as target children the most disruptive children in their classes, examination of the graphs of individual children and the previously discussed graph of office referrals strongly

---

[4] Copies of the graphs may be obtained by sending a self-addressed, stamped envelope to E. MacPherson, 5405 Mound Avenue, Cleveland, Ohio 44105.

suggests that the training program was highly effective.

Many positive changes occurred at Brewer during and after the program; the climate of the school environment, interpersonal rapport among the student body, parents, teaching and non-teaching staff, and community, and changes in teacher perception of work task and implementation of job description, to list only a few. Although these changes are not directly visible, and not easily measured and graphed, they did occur and maybe best can be summed up from a note I received in the mail from a substitute teacher. "Upon entering a friend's home, you sense his personality and so it is upon entering the school building. You are conscious of its student discipline. The children at Clara Tagg Brewer know me for I'm here so often as a substitute teacher; six days in six different rooms so far this year. They cheerily greet me with happy hellos. At other schools, the students' welcome is far less friendly. You can tell something different is going on at Brewer when you walk in. It's just in the air and on the children's smiling faces. I suspect there is some kind of faculty effort going on to improve the children's attitudes and school discipline. Last year I taught the same children but they didn't act the same. Now the classes are better behaved. Everyone in the room has more fun learning, even the teacher. Some children still need to be reprimanded, but not so severely or so often." These voluntary remarks speak for all of us in the project.

Not long ago, our directing supervisor heard a teacher speaking of her classroom use of operant methods. He couldn't get over the

enthusiasm, the high spirits and plain joy the speaker radiated about her work with kids. He ended up remarking he'd never met anyone who was using operant methods that wasn't happy. Come to think of it, neither have I. We concluded that operant nuts are happy because what they are doing works! It brings positive results. To paraphrase Napoleon: "The art of discipline is a science in which nothing succeeds which has not been calculated and thought out." I think St. Paul had educators in mind when he said each must ". . . work out his own salvation." Operant control is doing this for me.

REFERENCES

Bandura, Albert. Principles of Behavior Modification. New York: Holt, Rinehart, and Winston, 1969.

Blackwood, Ralph O. Mediated Self-Control: An Operant Model of Rational Behavior. Akron, Ohio: Exordium Press, 1972.

_____. Operant Control of Behavior. Akron, Ohio: Exordium Press, 1971.

Glasser, William. Schools Without Failure. New York: Harper & Row, 1969.

Harris, Thomas A. I'm OK--You're OK. New York: Harper and Row, 1968.

Hopkins, B. L., Schutte, R. C., and Garton, Kathleen L. "The Effects of Access to a Playroom on the Rate and Quality of Printing and Writing of First and Second-Grade Students," Journal of Applied Behavior Analysis, 1971, 4, 77-87.

Madsen, Charles H., Jr., Becker, Wesley C., and Thomas, Don R. "Rules, Praise, and Ignoring: Elements of Elementary Classroom Control," Journal of Applied Behavior Analysis, 1968, 1, 139-50.

Mace, C. A. The Psychology of Study. Baltimore: Penguin Books, 1968, chap v.

Meacham, Merle L. and Wiesen, Allen. Changing Classroom Behavior: A Manual for Precision Teaching. Scranton, Pa.: International Textbook Co., 1970.

Reynolds, G. S. A Primer of Operant Conditioning. Glenview, Illinois: Scott, Foresman, 1968.

Skinner, B. F. Beyond Freedom and Dignity. New York: Alfred Knopf, 1, 71.

_____. In Science and Human Behavior. New York: The Free Press, 1953.

_____. Walden II. New York: Macmillan, 1962.

Tvardosz, Sandra and Sajwaj, Thomas. "Multiple Effects of a Procedure to Increase Sitting in a Hyperactive, Retarded Boy," Journal of Applied Behavior Analysis, 1972, 5, 73-78.

Wesik, Barbara H., Senn, Katherine, Welch, Roberta H, and Cooper, Barbara R. "Behavior Modification with Culterally Deprived School Children: Two case studies," Journal of Applied Behavior Analysis, 1969, 2, 181-94.